

Bio-Resilient Ecology & Agricultural Living (B-REAL)

Examining our food systems and natural world and learning how to build healthier systems. Restorative ecology and wildlife management are taught on our school prairie. Urban agriculture techniques and aquaponics are taught in our school garden.

PRINCIPLES OF AGRICULTURE, FOOD & NATURAL RESOURCES

PRAIRIE ECOLOGY & WILDLIFE MANAGEMENT W LAB

RESTORATION PROJECT BASED RESEARCH

URBAN AGRICULTURE ***GIS CERTIFICATION***



BioResilient Ecology & Agricultural Living – B-REAL

Principles of Environment, Natural Resources and Agriculture (new: 2020-21) Comprehensive introduction to the B-REAL course. Students get their hands dirty, expanding their understanding and explore Wolf Prairie. Find out where food comes from and how its production impacts our health and planetary systems. Analyze strategies for raising food that keeps us, our economy and our ecology strong. Investigate environmental issues that impact society from endangered species to water conservation. Meet local professionals involved in related careers.

Prairie and Wildlife Ecology Management (Available 2021) The course focuses on learning and working with the science of ecological principles that drive the dynamic nature of rangeland ecosystems. Students will gain a greater understanding of the Westside prairie ecosystem and sustainable forage production, through a combination of classroom learning and hands on field experience.

Restoration Project Based Research (Available 2022) In this course, students focus on what ecological science contributes to restoration ecology; more specifically students will develop an understanding of ecological theory as it is applied to restoration projects.

Prairie Management and Wildlife Ecology Lab (coming: 2021-2022) Double-blocked class. Students help manage Westside's Wolf Prairie and the natives plant nursery. Restoration goals for the prairie include increasing biodiversity and increased area of native grasses. Students will learn propagation of native plants for use in Wolf Prairie and for exchange with local organizations. Wildlife management will include raising Bob White Quail for release on the prairie. Geographic Information Systems (GIS) certification will allow more indepth analysis of the ecology of Wolf Prairie.

Urban Agriculture Students will learn about principals of plant biology, soil science and permaculture; current trends in urban agriculture and the local food movements; comparison of industrial agriculture and sustainable agriculture; entrepreneurship and marketing in farmer's markets; cooking techniques to make healthy food enjoyable and attractive. The course has the components of any rigorous scientific or engineering program of study from the problem identification, investigation design, data collection, data analysis, formulation, and presentation of the conclusions. Students learn how to grow their own food, how to prepare it and why this is important. Students will focus on techniques appropriate for our urban setting. This class manages the Westside Garden and Aquaponics system. Students work as a team to produce food for sale to the Westside Community

Business Management & Accounting

The Business strand has two different pathways from which students can choose: Business Management or Finance/Accounting. Each program provides a rigorous curriculum in the classroom and complimentary enrichment opportunities outside of the classroom for students.

- 2 Pathway Strands – Business Management or Accounting
- Rigorous curriculum
- Enrichment opportunities outside the classroom
- Internships with Shell, Sysco Foods, McDermott International, Inc, Genesys Works & Marathon Oi



PRINCIPLES OF BUSINESS MANAGEMENT & FINANCE	
FINANCIAL MATH Or BUSINESS INFORMATION MANAGEMENT	
BUSINESS LAW Or GLOBAL BUSINESS & VIRTUAL Business	ACCOUNTING I
BUSINESS ENGLISH and/or BUSINESS MANAGEMENT Or PRACTICUM IN BUSINESS MANAGEMENT INTERNSHIP	ACCOUNTING II PAYROLL SPECIALIST CERTIFICATION

Business Management & Accounting

Principles of Business- We cover almost every topic associated in the business industry at a introductory level. Examples are business ownership, goods and services, production, retail, price, ethics, marketing, advertising, sales, and finance. As far as work we create business ideas, marketing plans, and a lot of practical items that are used in business today.

Financial Math- The basis of this class is personal finance. We learn how to buy cars, houses, apply for loans and credit cards. Any financial responsibility a grown-up has is taught through this class. Students are taught how to apply for jobs, create resumes, and practice job interview questions.

Business Information Management Systems - The course develops technology skills with applications to personal and business situations focusing on spreadsheets, presentation management, networking, operating systems, and emerging technology with a review of keyboarding, word processing for Microsoft Office Certifications, and Career Readiness that focuses on resume writing, filling out job applications, job interview skills and professional soft skills. The importance of technology and professionalism in the business world will be stressed daily. Among techniques used to deliver instruction are hands-on lectures, small group activities, multi-media materials, and student projects.

Business Management & Accounting

Accounting II This course introduces students to cost and manufacturing accounting concepts, principles, and procedures. Students will have the opportunity to use real -world accounting software, business documents, and financial statements. Students will apply concepts and prior accounting knowledge to complete assignments, simulations, and projects.

Accounting I Students are introduced to general accounting concepts, principles, and procedures. Students will have the opportunity to use real -world accounting software, business documents, and financial statements. Students complete practice sets/simulations and obtain QuickBooks industry certification.

Practicum Business Management - The course will help the student make a smooth transition from the classroom to a job. The student will get hands-on job experience that will teach them communication, networking, job-specific skills, professional soft skills and much more. Along with the hands-on experience, the students will complete and discuss classroom assignments to delve deeper into the characteristics and qualities needed to succeed on the job.

Computer Programming

After successfully completing Principles of Information Technology and Principles of Art, A/V Technology and Communications, students interested in Computer Programming can learn one to two programming languages. Westside offers Python or Java with Java being the more complex language. A student may use Python as a starting point to learn the basics of computer programming before venturing into Java or a student may start in Java. Both paths are included in the four-year plan below.

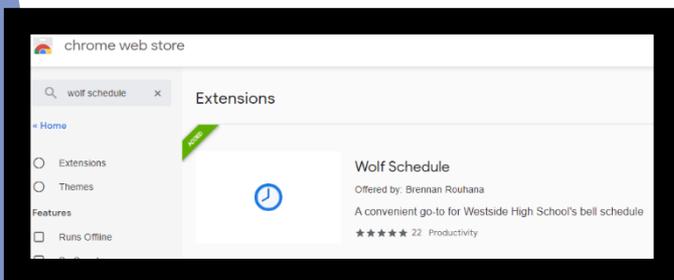
Hardware & Software

Computer Programming

Advanced Computer Programming

- Coding
- Web design
- Flow charting/needs assessments/...
- Visual programming languages/logic

FUNDAMENTALS OF COMPUTER SCIENCE
COMPUTER <u>PROGRAMMING I</u>
COMPUTER PROGRAMMING II
PRACTICUM IN INFORMATION TECHNOLOGY
INTERNSHIPS



A screenshot of the 'Wolf Schedule' web application. The page title is 'Wolf Schedule'. There are three tabs: 'Normal', 'Block', and 'Early Dismissal'. The 'Normal' tab is selected. The table below shows the bell schedule for each day of the week.

	Normal	Block	Early Dismissal
1st			7:45 8:45
2nd			8:51 9:41
3rd			9:47 10:37
4th			10:43 11:33
Lunch			11:34 12:24
5th			12:33 1:23
6th			1:29 2:19
7th			2:25 3:15

```
Code
1 for i in range(65, 91):
2     print(str(i) + ":" + chr(i), end = " ")
3     if(i % 5 == 4):
4         print(" ")
5
6 print(" ")
7 print (chr(89))
8 print (type(chr(89)))
9 print (ord("$"))
```

```
Output
65:A 66:B 67:C 68:D 69:E
70:F 71:G 72:H 73:I 74:J
75:K 76:L 77:M 78:N 79:O
80:P 81:Q 82:R 83:S 84:T
85:U 86:V 87:W 88:X 89:Y
90:Z
Y
```

Computer Programming

Principles of Information Technology - This course introduces the student to details in the field of Information Technology. Students will understand computer equipment, hardware and software, and employability in this growing field. Students will be introduced to the Microsoft Office™ product suite specifically word processing, spreadsheets, presentation management, and web design. Students will have the opportunity to earn industry recognized Microsoft Office certifications. Students also get an introduction to computer programming to get them ready for the following year.

Computer Programming - Students learn the approach and logic to computer programming. Students will begin to learn computer programming concepts such as string processing, control loops, conditional statements, methods, algorithms, and variable types. Students build programs utilizing visual programming languages such as Scratch™ and advance into programming using Python.

Advanced Computer Programming - After learning programming logic, students begin to learn JAVA™. Students write code in Eclipse™, an Integrated Development Environment. Students will understand data types & variables, strings, mathematical & logical expressions, flow control, and object - oriented programming. Students will have the opportunity to continue into AP Computer Science A or take the IT Practicum course.

IT Practicum - Students have the opportunity to go to a job site 2-3 days a week and shadow an IT manager. This is an unpaid internship. Students gain hands on experience with hardware and software installation at the job site. Other days, while in the classroom, students work on IT certifications and serve the high school for developing IT solutions.

Computer Science

Computer Science – After successfully completing Principles of Information Technology, students will take Computer Science I which utilizes Scratch, a block based programming language. In Computer Science II, students develop programs in Python and are introduced to JAVA. In AP Computer Science A students will program in JAVA. In addition, students can take AP Computer Science Principles, which gives an in depth study of the science of computer science.

Hardware & Software

Computer Programming

Advanced Computer Programming

- Coding
- Web design
- Flow charting/needs assessments/program design
- Visual programming languages/logic



COMPUTER SCIENCE

FUNDAMENTALS OF COMPUTER SCIENCE
Pre-AP COMPUTER SCIENCE I
Pre-AP COMPUTER SCIENCE II
or
AP COMPUTER SCIENCE PRINCIPLES

Computer Science

Computer Science I PreAP This course is an introduction to computer science using Scratch and Python to solve problems and create programs. Students will write many programs, implementing algorithm development, data types, variables, object-oriented programming techniques, decision making, iteration and arrays. Software development concepts and group learning in real word simulations will be experienced.

Computer Science II PreAP This course is an introduction to computer science using Java to solve problems and create programs. Students will write many programs implementing algorithm development, data types, variables, object-oriented programming techniques, decision making, iteration and arrays. Software development concepts and group learning in real word simulations will be experienced.

AP Computer Science Principles The AP Computer Science Principles course is designed to be the equivalent to the first semester introductory college computing course. It is recommended that the AP Computer Science Principles course should have successfully completed a first year high school algebra course with a strong foundation in basic linear functions and composition of functions and problem solving strategies.

The AP Computer Science This course introduces the students to computer science with fundamental topics that include problem solving, design strategies and methodologies of organization of data. And the ethical and social implications of computing.

IT Practicum - Students have the opportunity to go to a job site 2-3 days a week and shadow an IT manager. This is an unpaid internship. Students gain hands on experience with hardware and software installation at the job site. Other days, while in the classroom, students work on IT certifications and serve the high school for developing IT solutions.

Culinary Arts

Westside Culinary Arts (WCA) Program provides high school students with an opportunity to explore career opportunities in the restaurant and foodservice industry through academic and hands-on learning. Westside's four-year program teaches students the management skills they will need to progress in their education and careers. WCA students work toward earning multiple certificates throughout their four years with the goal of attaining the ProStart Certificate of Achievement.

- Opportunities to explore restaurant and food service industry career opportunities
- Rigorous academic and hands-on learning
- Opportunity to earn multiple certificates
- Highest goal – attaining the ProStart Certificate of Achievement

INTRODUCTION TO CULINARY ARTS
CULINARY ARTS FOOD HANDLER'S CERTIFICATION
ADVANCED CULINARY ARTS FOOD MANAGER'S CERTIFICATION
PRACTICUM IN CULINARY ARTS RESTAURANT SIMULATIONS



Culinary Arts

Introduction to Culinary: General requirements. This course is recommended for students in Grades 9 and 10.

Recommended prerequisite: Principles of Hospitality and Tourism. This is a one credit course where students cover the fundamentals of the culinary profession. First semester will be completely classroom based; second semester is where students apply what they learn into the kitchen. Class Fee is a non-refundable \$75; **pro-active** payment plans can be arranged. Students receive professional kitchen approved hat, pants, and apron this year. Non-slip shoes should be purchased elsewhere by student.

Class Focus: Industry Basics, Culinary Vocabulary, Workplace Safety, Food Safety, Weights and Measures, Stocks, Knife Skills, Egg Cookery, Introduction to Baking

Culinary Arts: General requirements. This course is recommended for students in Grades 10-12.

Required prerequisites: Principles of Hospitality and Tourism and/or Introduction to Culinary Arts. This is a two-credit course where classes will begin to connect to each other. Ex: 2nd-3rd period.

Students will receive their Texas Food Handlers Certification through the National Restaurant Association's ServSafe Program. Students will test for the first level of the National Restaurant Association's Certificate of Achievement. Class fee is a non-refundable \$150; **pro-active** payment plans can be arranged. Students receive professional kitchen approved hat, chef jacket, pants, and apron this year. Non-slip shoes should be purchased elsewhere by student/previous shoes can be re-used depending on the quality of the shoes.

Class focus: Food Safety, Workplace Safety, Quick Breads, Yeast Breads, Starch Cookery, Time-Management, Food Preparation Techniques, Knife Skills, Stocks, Soups, and Sauces

Advanced Culinary: General requirements. This course is recommended for students in Grades 10-12.

Required Prerequisite: Culinary Arts. Students shall be awarded two credits for successful completion of this course.

Class Fee is a non-refundable \$150; **pro-active** payment plans can be arranged. Students will test for the second level of the National Restaurant Association's Certificate of Achievement. Students receive professional kitchen approved hat, chef jacket *with their name*, pants, and apron this year. Non-slip shoes should be purchased elsewhere by student/ previous shoes can be re-used depending on the quality of the shoes.

Class Focus: Advanced food preparation, Time-management, Full-Plating, Advanced Culinary Techniques

Practicum in Culinary Arts: General requirements. This course is recommended for students in Grades 11 and 12.

Required Prerequisite: Advanced Culinary Arts. Students shall be awarded two credits for successful completion of this course.

Class Fee is a non-refundable \$150; **pro-active** payment plans can be arranged. Students will receive their ServSafe Food Managers Certification through the National Restaurant Association's ServSafe Program. Students will work to complete their required practicum hours for the Certificate of Achievement. Students receive professional kitchen approved hat, chef jacket *with their name and school logo*, pants, and apron this year. Non-slip shoes should be purchased elsewhere by student/ previous shoes can be re-used depending on the quality of the shoes.

Class focus: Culinary Management, Cost Controls, Marketing, Global Cuisine, Banquets, A la Carte, Colleges and Higher Education

Design & Multimedia Arts

The Design & Multimedia Arts is a four-year program which includes journalism, broadcast journalism, and audio/video production. This strand has three specialized pathways as the students advance. The specialized pathways are Animation, Audio/Video Production, and Graphic Illustration

ANIMATION

PRINCIPLES OF ART, AV TECH & COMMUNICATIONS
2D ANIMATION
3D ANIMATION W/ LAB
ANIMATION PRACTICUM

AUDIO VIDEO PRODUCTION

PRINCIPLES OF ART, AV TECH & COMMUNICATIONS
AUDIO VIDEO PRODUCTION I
AUDIO VIDEO PRODUCTION II
PRACTICUM IN AUDIO VIDEO PRODUCTION
BROADCASTING

GRAPHIC DESIGN & ILLUSTRATION

PRINCIPLES OF ART, AV TECH & COMMUNICATIONS
GRAPHIC DESIGN & ILLUSTRATION I
GRAPHIC DESIGN & ILLUSTRATION I W/LAB
PRACTICUM IN GRAPHIC DESIGN & ILLUSTRATION



Design & Multimedia Arts

Animation, the foundation for animating in any genre is explained and explored. Students build a robust portfolio of both 2D and 3D animation works (think Sunday morning cartoons and Pixar). Students become familiar with industry terminology and learn how to give and receive constructive criticism. Students are given the tools and opportunity to create and communicate original stories from start to finish, from preproduction to postproduction.

Advanced Animation Students begin to explore the more advanced offerings of 3D animation software. There is a heavy emphasis on original creation. Students delve into every stage of the animation pipeline, from concept art and storyboarding, to modeling, texturing, rigging, animating, lighting, rendering and editing. Students are encouraged to identify and refine their preferred area of expertise. Students are given the opportunity to work collaboratively and are expected to act as part of a team.

Animation Practicum puts the student in the role of employee. Students are taught traditionally for part of the time, while the rest is spent creating content for clients. Students expand their animation skillset to be even more industry relevant while building their resume and professional portfolio.

Principles of Arts, Audio/Video Technology, and Communication - The goal of this course is for the student understands arts, audio/video technology, and communications systems. Within this context, students will be expected to develop an understanding of the various and multifaceted career opportunities in this cluster and the knowledge, skills, and educational requirements for those opportunities.

AV Practicum - Application of professional video techniques in programming. Emphasis on studio operation. Fundamentals of using multiple media to produce for print, broadcast and online platforms. Video pre-production and production management, including techniques of script breakdown, scheduling, budgeting, and producing of professional productions and student projects. The students who will thrive in this pathway enjoy the creative process and aren't afraid of hard work. They enjoy working on the computer. They have a story they want to tell and love to find new ways to tell it. They do not have to be good at drawing or art to succeed.

Graphic Design and Illustration - Students will develop an understanding of the industry with a focus on fundamental elements and principles of visual art and design. Students will learn foundational graphic techniques through hands on experiences.

Graphic Design and Illustration w/ Lab - Within this context, in addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an advanced understanding of the industry with a focus on mastery of content knowledge and skills. Students will design and then produce professional graphics.

Practicum in Graphic Design and Illustration (Beginning Fall of 2021) - In addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an advanced technical understanding of the printing industry with a focus on finishing and bindery operations and customer-based projects. through lab-based classroom experiences or career preparation opportunities. Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.

Engineering

The Westside Engineering Academy offers a unique chance for students to gain perspective and insight into the engineering field. Students in this academy are engaged in rigorous academics and hands on projects. Teamwork and leadership skills are emphasized throughout the program, and organization is stressed from the beginning as essential for success. Problem based learning and critical thinking skills are fostered, as they are essential to the engineering profession.

- Rigorous Academics, hands on projects
- Problem based learning and critical thinking skills
- Partnership with Independent Petroleum Association of America (IPAA) & Petroleum Equipment & Services (PESA)
- Visit local engineering companies, experience the emerging technologies, hands on experience
- Nationally recognized four year engineering curriculum created by Project Lead the Way

INTRODUCTION TO ENGINEERING DESIGN
COMPUTER INTEGRATED MANUFACTURING
DIGITAL ELECTRONICS
ENGINEERING DESIGN & PROBLEM SOLVING Or SCIENTIFIC RESEARCH & DESIGN <i>Solid Works Certification</i>



Engineering

Engineering Design and Problem Solving - The knowledge and skills students acquire throughout PLTW Engineering come together in Engineering Design and Problem Solving as they identify an issue and then research, design, and test a solution, ultimately presenting their solution to a panel of engineers. Students apply the professional skills they have developed to document a design process to standards, completing Engineering Design and Problem Solving ready to take on any post-secondary program or career.”

Digital Electronics - From smartphones to appliances, digital circuits are all around us. This course provides a foundation for students who are interested in electrical engineering, electronics, or circuit design. Students study topics such as combinational and sequential logic and are exposed to circuit design tools used in industry, including logic gates, integrated circuits, and programmable logic devices.

Computer Integrated Manufacturing (CIM) is the study of **manufacturing** planning, integration, and implementation of automation. The **course** explores **manufacturing** history, individual processes, systems, and careers. In addition to technical concepts, the **course** incorporates finance, ethics, and engineering design.

Introduction to Engineering Design

Students dig deep into the engineering design process, applying math, science, and engineering standards to hands-on projects. They work both individually and in teams to design solutions to a variety of problems using 3-D modeling software, and use an engineering notebook to document their work.

Westside Geosciences & Engineering Academy WEGA

- Rigorous Academics, hands on projects
- Build Teamwork and Leadership Skills
- Problem based learning and critical thinking skills
- Partnership with Independent Petroleum Association of America (IPAA)
- Visit local engineering companies, experience the emerging technologies, hands on experience
- Nationally recognized four year engineering curriculum created by Project Lead the Way.

Health Science

The Health Science Technology Pathway allows students to investigate careers in the health professions field through specialized coursework and unique enrichment opportunities. HST has developed various partnerships throughout the medical community. HST students gain in depth knowledge of HST careers through off campus visits, career guest speakers and certification trainings with the Red Cross.

- Instructional focus on sciences, terminology & careers in the health profession field
- CPR, AED, First Aid, Red Cross, etc.
- Practicum in Health Science Technology
- Travel to Medical Facilities for fieldwork Experience
- HOSA competitions, Blood Drives

HEALTH SCIENCE TECHNOLOGY

PRINCIPLES OF HEALTH SCIENCE	
MEDICAL TERMINOLOGY	
HEALTH SCIENCE THEORY	
PRACTICUM IN HEALTH SCIENCE PHARMACOLOGY CERTIFICATION	PATHOPHYSIOLOGY
or MEDICAL ASSISTANT CERTIFICATION	



Health Science

HEALTH SCIENCE

Principles of Health Science The course is designed for students interested in pursuing a career in healthcare.

Students develop health care knowledge and skills by understanding effective communication, ethical and legal responsibilities and patient care. The students are taught to view the health care system as consumers as well as potential health care professionals. It prepares students to reason, think critically and communicate effectively. Students will recognize that quality healthcare depends on the ability of an individual to be a good team player and to work well with others.

Major Topics:

Healthcare systems

Medical History

Alternative & Complementary Therapies

Stress & Time Management

Goal Setting

Personal Qualities of a Healthcare Worker

Legal Aspects of health care

Ethical Responsibilities

Healthcare Career Exploration

Basic Human Anatomy & Physiology

CPR and AED

Health Science

Practicum of Health Science/ Pharmacy to the practice and procedures used to assist the pharmacist in various pharmacy operations and settings. Students will review the history of pharmacy practice, technician roles, the importance of regulatory laws and agencies, safety, licensing, competencies, career requirements, and associations for technicians.

Practicum of Health Science/ Medical Assisting This course is designed to give students practical application of previously studied knowledge and skills. This course will be taught by different methodologies, such as preclinical lab, clinical rotation, and cooperative education. During clinical rotation, students will observe in numerous specialty areas including ER, Sports Medicine, Nursery, ICU, Cancer Center, etc. In select settings, students will provide direct patient care under the supervision of professionals in the medical field.

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